

performed to assess the relationship between total and sectional ASQ-3 score and age subgroup.

**Findings:** 5,850 Peruvian infants were evaluated in 2013. Mean age was 13 months and 50.7% were males. Mothers had a mean education of  $6.6 \pm 4.0$  years. 34.8% were stunted, 7.8% were underweight, and 0.9% were wasted. Mean total ASQ-3 was  $42.2 \pm 8.2$ . The ASQ-3 allocated 49.6% as having a suspected developmental delay in one or more areas of development.

The age subgroups were nearly evenly distributed (24.5%, 25.9%, 25.7%, 23.9%). Linear regression showed a significant association between age subgroup and both total ( $\beta=1.8$ , CI: 1.7-2.0,  $p<0.001$ ) and sectional ASQ-3 score (all  $p<0.001$ ). Age subgroup was also inversely associated with scores reflecting a developmental delay in at least one section ( $p<0.001$ ). After adjusting for wealth quintile, education level of the mother, and stunted and underweight status, age subgroup remained significantly associated with total ASQ-3 score ( $\beta=1.8$ , CI: 1.7-2.0,  $p<0.001$ ), sectional ASQ-3 score (all  $p<0.001$ ) and inversely associated with one or more scores indicating suspected developmental delay ( $p<0.001$ ).

**Interpretation:** Peruvian clinicians and parents should be properly informed about the possibility of false positives or overscreening for developmental delays if the infant's age is in the lower range for an ASQ-3 screening interval.

**Funding:** None.

**Abstract #:** 1.031\_NEP

### A health perspective of street children in Bangladesh

S. Chowdhury<sup>1</sup>, M.Z. Islam<sup>2</sup>, R. Chowdhury<sup>3</sup>, A.S. Chowdhury<sup>4</sup>, M.M. Rahman<sup>1</sup>; <sup>1</sup>Institute of Biomedical & Health Sciences, Hiroshima University, Japan, <sup>2</sup>Centre for Environment and Population Health, School of Environment, Griffith University, Brisbane, Australia, <sup>3</sup>Department of Chemistry, National University, Dhaka, Bangladesh, <sup>4</sup>Department of Accounting & Information Systems, University of Dhaka, Bangladesh

**Project Purpose:** Street children refer to millions of destitute boys and girls who have adopted the street as their abode or source of livelihood, or both. These children grow up in an environment where tranquility, and physical and emotional stability are frequently or constantly threatened. The purpose of this study is to have a close and empathetic look into the lives of street children that will help to identify their health-related needs.

**Method:** A cross sectional descriptive type of study was conducted among 125 street children between the ages 8 to 14 years who were available at different intercept points of Dhaka city, Bangladesh. The information was collected through face-to-face interview using a structural questionnaire. An attempt was also made to relate their lifestyle, risk behavior and health impact upon the socio demographic characteristics.

**Outcome and Evaluation:** In this present study, the findings suggest that, according to the statement of street children, poverty (41%) is the main reason behind enforcing the children to stay and work on the street. Additionally other factors are physical abuse by the family member, due to presence of stepmother or father, brought by unknown person, to earn money, and run away with

friends, etc. The expenditures for food and addiction are also significantly associated with the rise of income. They pass their leisure by playing games, roaming around by watching video/cinema but on the other side of the coin, they are frequently abused (80.8%) either physically or sexually. Regarding health, about 87.2% street children were suffering from different type of diseases as accidental injury, skin infection, hepatitis, sexually transmitted diseases (STDs) and warm infestation.

**Going Forward:** This study has been performed in response to the pressing need to assess the personal and social consequences of the urban street children in Bangladesh. A careful examination of the lives of these children will provide a clearer understanding of the paths to their disadvantageous life. A better diagnosis of the contributing factors will help to minimize the extent of the problems and also to develop innovative approaches and ensure a healthy lifestyle for the future generation.

**Funding:** None.

**Abstract #:** 1.032\_NEP

### Population-based study to determine prevalence of hypertension and other cardiovascular risk factors in a rural region of Kenya

J. Shabani<sup>1</sup>, B. Cogburn<sup>2</sup>, A. Ngugi<sup>1</sup>, S. Macfarlane<sup>1,2</sup>, M. Mahoney<sup>1,3</sup>; <sup>1</sup>Aga Khan East Africa University, Nairobi, Kenya, <sup>2</sup>University of California, San Francisco, CA, USA, <sup>3</sup>Stanford University, Stanford, CA, USA

**Background:** Cardiovascular disease is the leading cause of death in Africa. Hypertension, with a high prevalence in sub-Saharan Africa, appears to be a major contributory factor. Little is known about the prevalence of or risk factors for hypertension in rural areas of sub-Saharan Africa. We propose to estimate the prevalence of hypertension in adults in rural southern Kenya.

**Methods:** We will conduct the survey in Kaloleni district using randomized two-stage cluster sampling. We will use the validated WHO STEPwise approach to chronic disease questionnaire with additional questions for non-traditional risk factors and collect baseline blood pressure, basic demographic/anthropometric and spot urine from 660 non-pregnant adults over the age of 20 years old.

**Findings:** Our research group conducted a preliminary assessment of hypertension prevalence in the same district during a health fair for a total of 740 residents. The prevalence of hypertension among 91 participants aged >18 years was high (31%). This current study will report prevalence of hypertension and its traditional risk factors, in addition to non-traditional risk factors such as kidney disease from chronic Schistosomiasis infection, indoor smoke exposure, or consumption of "miraa" (a plant-based stimulant). The data collection and analysis will take place November 2015.

**Interpretation:** Our study will provide epidemiological data critical for mapping and surveillance of hypertension and associated cardiovascular risk factors crucial for curbing the cardiovascular disease pandemic that is emerging in rural Kenya and other parts of East Africa. This will be the first study of nontraditional cardiovascular risk factors in a rural Kenya that has the potential to uncover interventions that can particularly impact rural populations

in LMICs. Findings from this study will lead to the development of a team-based health intervention that addresses hypertension in rural populations in low and middle income countries.

**Funding:** Seed funding from University of California, San Francisco and Stanford University.

**Abstract #:** 1.033\_NEP

### Simulation-based training of obstetric providers in Nicaragua

Abstract Opted Out of Publication

**Abstract #:** 1.034\_NEP

### Cardiometabolic risk factors in Human Immunodeficiency Virus infected patients on 2nd line anti-retroviral therapy in Nairobi, Kenya

*Das Anuka<sup>1</sup>, Mugisha Nancy<sup>1</sup>, Tutak Stephanie<sup>1</sup>, Kio Stephen<sup>2</sup>, Kwatampora Lily<sup>1</sup>, Keiser Philip<sup>1</sup>, Achieng Loice<sup>2</sup>; <sup>1</sup>University of Texas Medical Branch, Center for Global Health Education, Galveston, TX, USA, <sup>2</sup>Department of Clinical Medicine and Therapeutics, University of Nairobi, Nairobi, Kenya*

**Background:** The association of protease inhibitors (PIs) in antiretroviral therapy (ART) and development of cardiovascular disease (CVD) in HIV patients is well established in developed countries. In Kenya, the prevalence of these abnormalities in patients on PI based 2<sup>nd</sup> line ART is unknown. The objective of this study is to characterize CVD risk factors in patients receiving 2<sup>nd</sup> line ART in Kenya.

**Methods:** A cross-sectional study was conducted on 263 patients on 2nd line ART at Mbagathi Hospital in Nairobi, Kenya. After appropriate IRB approval and informed consent was obtained, patients 15 years and older on 2<sup>nd</sup> line ART for at least 6 months were included. For those below the age of 18, informed consent was obtained from a parent or legal guardian. Patients with diabetes, taking lipid-lowering medications, and medications that affect metabolism were excluded. Eligible patients were screened for metabolic syndrome by evaluating central obesity, lipodystrophy, blood pressure, and glucose levels as defined by the International Diabetes Federation. The primary sample size was determined using Fisher's formula. Statistical analysis was performed using SPSS.

**Findings:** 53 patients out of 231 (22.9%) met the criteria for metabolic syndrome. There was no correlation of response to HIV therapy with the presence of metabolic syndrome. Alcohol consumption, smoking, and sedentary hours were not correlated with metabolic syndrome. The presence of clinical lipodystrophy did have a statistically significant difference between those with and those without metabolic syndrome (ANOVA of <0.01).

**Interpretation:** Patients on 2nd line ART have CVD risk factors. Interventions need to be utilized to minimize preventable NCD risks in these patients. Study limitations included small sample size, the lack of previously established data and guidelines in this patient population, and the loss of 32 patients to follow-up. Further studies need to compare patients not on HIV therapy, on 1st line ART, and on 2nd line ART to understand whether CVD risk is affected by HIV infection, treatment, or both.

**Funding:** The Center for Tropical Diseases, The Institute for Human Infections and Immunity at UTMB, Kenyan Medical Research Initiative Non-Communicable Disease Program, and Kenya Medical Research Institute.

**Abstract #:** 1.035\_NEP

### Developing team skills competencies for the global health context: interprofessional predeparture training for health science students engaging in global health projects at the University of Florida

*E.L. DeVos<sup>1,2</sup>, C. Ikponmwonba<sup>3</sup>, K. Patel<sup>1</sup>, S.L. McKune<sup>3</sup>, J.W. Grigg<sup>1</sup>, A. Blue<sup>3</sup>; <sup>1</sup>The University of Florida College of Medicine, Gainesville, FL, USA, <sup>2</sup>The University of Florida College of Medicine, Jacksonville, FL, USA, <sup>3</sup>The University of Florida College of Public Health and Health Professions, Gainesville, FL, USA*

**Program/Project Purpose:** The University of Florida (UF) Health Science Center prioritizes interprofessional training of its composite colleges' students—Medicine, Nursing, Pharmacy, Dentistry, Veterinary Medicine and Public Health and Health Professions. A natural component of such interprofessional training is pre-departure training for students engaging in interdisciplinary and interprofessional global health projects to focus on team skills competency development.

**Structure/Method/Design:** The goal of the pre-departure training is to expose the students to the personal, professional, and cultural standards required by all health professionals working in global settings. Health Science Center students participating in global health electives, service learning trips or field-work participate in a one-day interprofessional pre-departure seminar. Training consists of panel presentations by faculty, small group case studies, and facilitated, large group discussions with faculty members from the six colleges. Students are provided with knowledge and skills on safety measures, appropriate behaviors, interprofessional collaboration, and professional limitations, which prepare them for success in their various international travels. Training focuses on the interprofessional aspects of global health work, and aims to foster student understanding and appreciation of interprofessional work.

**Outcome & Evaluation:** One hundred thirty seven UF students participated in the second annual 2015 training. Quality improvement surveys revealed that the 2015 workshop better met students' needs by incorporating additional vignettes, case discussions, and faculty panels. Students reported increased awareness of cultural sensitivity, personal safety, and the impact of one's behaviors on working in global contexts. Students also found the workshop valuable for improved knowledge of working within one's professional limits and understanding of other professions' roles and interprofessional collaboration. Teams felt more ready to work together to utilize the skills of their colleagues to solve global health problems.

**Going Forward:** Interprofessional pre-departure training shows promise for cultivating team skills competencies for global health education. We will continue to strengthen pre-departure training emphasizing cultural sensitivity, student safety, and collaboration with local teams in the context of interdisciplinary teams. We